



STIC Search Report

EIC 1700

STIC Database Tracking Number: 150227

TO: Dawn Garrett
Location: REM 10C79
Art Unit : 1774
April 21, 2005

Case Serial Number: 10/812630

From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 4/7/2005
 Art Unit: 1774 Phone Number 302-1523 Serial Number: 10/812,630
 Mail Box and Bldg/Room Location: Remsen 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic Element For Electroluminescent Devices
 Inventors (please provide full names): Lelia Cosimbescu
Douglas Robello

Earliest Priority Filing Date: 3/30/2004

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search formula (1) as part of
 an electroluminescent (light-emitting) device
 Include specific formula (2) in the search.

Thank you

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>4/21/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>15</u>	Other _____	Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED AT 14:33:13 ON 21 APR 2005

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STRUCTURE FILE UPDATES: 20 APR 2005 HIGHEST RN 848887-73-0

DICTIONARY FILE UPDATES: 20 APR 2005 HIGHEST RN 848887-73-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 14:33:18 ON 21 APR 2005

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FILE COVERS 1907 - 21 Apr 2005 VOL 142 ISS 17

FILE LAST UPDATED: 20 Apr 2005 (20050420/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L11 STR

$\text{Cb} \sim \text{C} \equiv \text{C} \sim \text{Cb}$
 1 2 3 4

357 structures from this query covering formula 1

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS PCY UNS AT 1

GGCAT IS PCY UNS AT 4

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

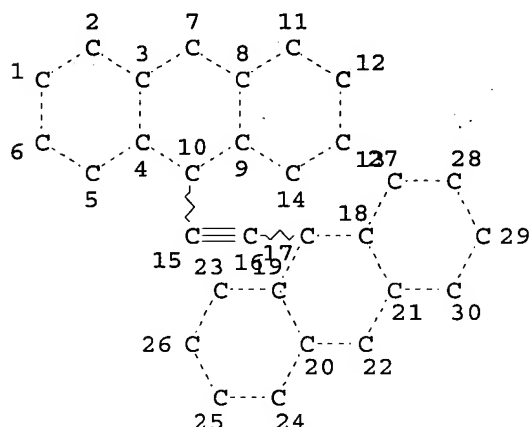
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L13 SCR 1841

L15 357 SEA FILE=REGISTRY SSS FUL L11 AND L13

L16 STR



Subset search for formula 2

12 structures

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L19 ~~12~~ SEA FILE=REGISTRY SUB=L15 SSS FUL L16

L20 19 SEA FILE=HCAPLUS ABB=ON L19

L21 1 SEA FILE=HCAPLUS ABB=ON L20 AND (EL OR ?LUMINES? OR LIGHT?(3A) ?EMIT?)

19 CA references

only 1 CA on utility

=> D L21 BIB ABS IND HITSTR

L21 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1981:173761 HCAPLUS

DN 94:173761

TI Excited-state properties of cis- and trans-1,2-di(9-anthryl)ethylenes

AU Becker, Hans Dieter; Sandros, Kjell; Hansen, Lars

CS Dep. Org. Phys. Chem., Chalmers Univ. Technol., Gothenburg, S-412 96,

Swed.

SO Journal of Organic Chemistry (1981), 46(4), 821-3
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

GI For diagram(s), see printed CA Issue.

AB The luminescence and absorption spectra of trans- (I) and cis-1,2-di-9-anthrylethylene (II; R = H, OAc, OMe), geometrical isomers that can not assume coplanar ground-state conformations, were determined. The fluorescence and UV spectra of I suggest a large conformational difference between the ground and excited states. II in cyclohexane at room temperature

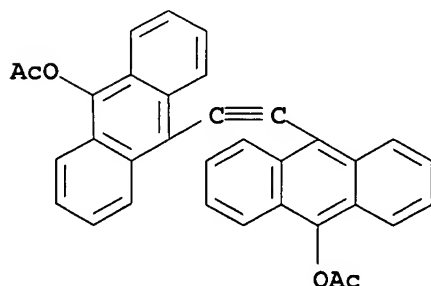
is virtually nonfluorescence. Emission of I in a rigid medium or in a crystal may be due to excimer-like intermol. interactions. Photoexcited II most efficiently returns to the ground state by radiationless transition.

CC 22-2 (Physical Organic Chemistry)

ST fluorescence UV anthrylethylene conformation

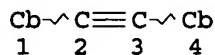
IT Energy level transition
(electron, in dianthrylethylenes)IT Ultraviolet and visible spectra
(of cis and trans-dianthrylethylenes)IT Fluorescence
(of cis and trans-dianthrylethylenes, conformation in relation to)IT Conformation and Conformers
(of cis and trans-dianthrylethylenes, in ground and excited states)IT 58382-04-0 75919-24-3 75919-25-4
RL: PRP (Properties)
(fluorescence and UV spectra of, conformation in relation to)IT 3849-11-4 76652-83-0
RL: PRP (Properties)
(fluorescence of, conformation in relation to)IT 75919-27-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and catalytic hydrogenation of)IT 75919-26-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acetic anhydride)IT 75919-27-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and catalytic hydrogenation of)

RN 75919-27-6 HCAPLUS

CN 9-Anthracenol, 10,10'-(1,2-ethynediyl)bis-, diacetate (9CI) (CA INDEX
NAME)

=> => D QUE

L11 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS PCY UNS AT 1

GGCAT IS PCY UNS AT 4

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

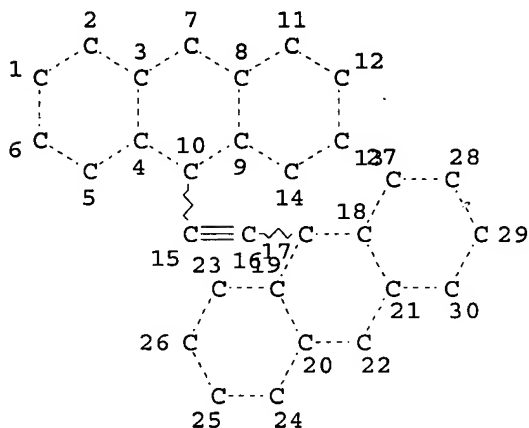
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L13 SCR 1841

L15 357 SEA FILE=REGISTRY SSS FUL L11 AND L13

L16 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L19 12 SEA FILE=REGISTRY SUB=L15 SSS FUL L16

L20 19 SEA FILE=HCAPLUS ABB=ON L19

L21 1 SEA FILE=HCAPLUS ABB=ON L20 AND (EL OR ?LUMINES? OR LIGHT?(3A) ?EMIT?)

L22 180 SEA FILE=HCAPLUS ABB=ON L15

L23 18 SEA FILE=HCAPLUS ABB=ON L22 AND (EL OR ?LUMINES? OR LIGHT?(3A) ?EMIT?)

L24 17 SEA FILE=HCAPLUS ABB=ON L23 NOT L21

=> D L24 BIB ABS IND HITSTR 1-17

17 CA references from broad structure search of formula and utility

L24 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:117087 HCAPLUS

DN 142:207357

TI Organic electroluminescent device based on pyrene derivatives
and the pyrene derivativesIN Li, Xiao-Chang Charles; Okamura, Yoshimasa; Ueno, Kazunori; Tashiro,
Masashi; Tashiro, Hideki; Prakash, G. K. Surya

PA Canon Kabushiki Kaisha, Japan

SO U.S., 17 pp.

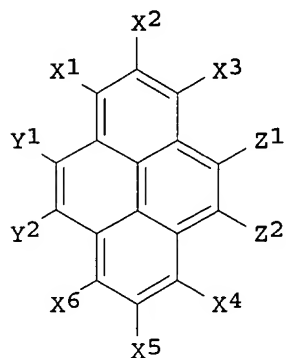
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6852429	B1	20050208	US 2003-634755	20030806
	US 2005031898	A1	20050210		
PRAI	US 2003-634755		20030806		
GI					



I

AB Pyrene-based compds. are described by the general formula I (Z1 = H, D, O, Si, Se, (un)substituted aryl, (un)substituted heteroaryl, (un)substituted aryl amine, or a combination thereof; Z2 = H or D; 1 of Y1 and Y2 = H, D, O, Si, Se, (un)substituted aryl, (un)substituted heteroaryl, (un)substituted aryl amine or a combination thereof, and the other of Y1 and Y2 = H or D; and X1-6 = independently selected H, D, alkyl, or aryl groups). Preferably, ≥ 1 of X1-6 = a bulky alkyl or aryl group such as tert-Bu and ≥ 1 of X1-6, Y1, Y2, Z1, and Z2 = D. Z1 and 1 of Y1 and Y2 may be hole injection and/or electron injection chromophores. Organic light-emitting devices incorporating the compds. in active, hole transport, and/or electron transport layers are also described. The pyrene based compound can serve directly to constitute the layers or as a host and/or dopant.

IC ICM H05B033-14

NCL 428690000; 428917000; 252301160; 252301350; 313504000; 313506000;
257040000; 257103000CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)

Section cross-reference(s): 25, 76

ST org electroluminescent device pyrene deriv

IT Electroluminescent devices

(organic; organic **electroluminescent** devices based on pyrene
derivs. and pyrene derivs.)

IT 839713-18-7 839713-19-8 839713-20-1 839713-21-2 839713-22-3
839713-23-4 839713-24-5 839713-25-6 839713-26-7
839713-27-8 839718-92-2

RL: DEV (Device component use); USES (Uses)

(organic **electroluminescent** devices based on pyrene derivs. and
pyrene derivs.)

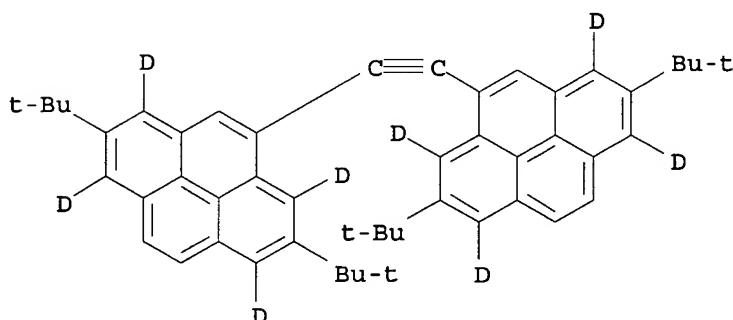
IT 839713-26-7

RL: DEV (Device component use); USES (Uses)

(organic **electroluminescent** devices based on pyrene derivs. and
pyrene derivs.)

RN 839713-26-7 HCAPLUS

CN Pyrene-1,3,6,8-d4, 4,4'-(1,2-ethynediyl)bis[2,7-bis(1,1-dimethylethyl)-
(9CI) (CA INDEX NAME)



RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:57981 HCAPLUS

DN 142:146457

TI Bis(2-acenyl)acetylene semiconductors

IN Gerlach, Christopher P.

PA 3M Innovative Properties Company, USA

SO U.S. Pat. Appl. Publ., 16 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005012090	A1	20050120	US 2003-620027	20030715
	WO 2005014511	A1	20050217	WO 2004-US17108	20040602
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2003-620027 A 20030715

OS MARPAT 142:146457

AB Bis(2-acenyl)acetylene compds. that are useful as stable and reproducible organic semiconductors are disclosed. The compds., when used as the active layer in OTFTs exhibit device characteristics, like charge-carrier mobilities and current on/off ratios, that are comparable to those of pentacene. Also described are semiconductor devices comprising at least one compound of the invention; and articles comprising the semiconductor devices such as thin film transistors or transistor arrays, and electroluminescent lamps.

IC ICM H01L035-24

ICS C07C013-465; C07C050-16

NCL 257040000; 552271000; 585026000

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 24

ST acenylacetylene semiconductor compd device

IT Semiconductor compounds

Semiconductor films

Thin film transistors

Transistors

(bis(2-acenyl)acetylene semiconductors and devices)

IT Electric lamps

(electroluminescent; bis(2-acenyl)acetylene semiconductors and devices)

IT Self-assembled monolayers

(for bis(acenyl)acetylene film devices)

IT Polysiloxanes, uses

RL: DEV (Device component use); USES (Uses)

(for bis(acenyl)acetylene film devices)

IT Electroluminescent devices

(lamps; bis(2-acenyl)acetylene semiconductors and devices)

IT Polymers, uses

RL: DEV (Device component use); USES (Uses)

(nonfluorinated; for bis(acenyl)acetylene film devices)

IT 4721-17-9 4721-24-8 4724-48-5 31900-57-9, Poly(dimethylsiloxane)

156048-34-9, Poly(dimethylsiloxane-co-diphenylsiloxane) 156048-35-0,

Poly(dimethylsiloxane-co-methylphenylsiloxane) 164662-84-4,

Poly(methylphenylsiloxane-co-diphenylsiloxane) 445388-37-4

RL: DEV (Device component use); USES (Uses)

(for bis(acenyl)acetylene film devices)

IT 994-71-8, Bis(tri-n-butylstannyl)acetylene 20224-50-4, Tri(tert-butyl) phosphate

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(in preparation of bis(2-anthracenyl)acetylene)

IT 108-88-3, Toluene, uses 13400-13-0, Cesium fluoride (CsF)

RL: NUU (Other use, unclassified); USES (Uses)

(in preparation of bis(2-anthracenyl)acetylene)

IT 572-83-8, 2-Bromoanthraquinone

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(in preparation of bromoanthracene)

IT 108-93-0, Cyclohexanol, uses 2269-22-9, Aluminum tri-sec-butoxide

RL: NUU (Other use, unclassified); USES (Uses)

(in preparation of bromoanthracene)

IT 109-99-9, Tetrahydrofuran, processes

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(in preparation of bromoanthracene)

IT 85600-52-8, 2-Chloro-5,12-tetracenequinone

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in preparation of chlorotetracene)

IT 827345-90-4P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and properties of)

IT 62775-17-1P, 2-Chlorotetracene
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation and reactions of)

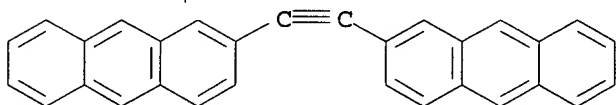
IT 7321-27-9P, 2-Bromoanthracene
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of)

IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 25014-31-7, Poly(α -methylstyrene)
RL: NUU (Other use, unclassified); USES (Uses)
(properties of bis(anthracenyl)acetylene films on substrates of)

IT 827345-90-4P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and properties of)

RN 827345-90-4 HCAPLUS

CN Anthracene, 2,2'-(1,2-ethynediyl)bis- (9CI) (CA INDEX NAME)



L24 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2005 ACS. on STN

AN 2004:1142079 HCAPLUS

DN 142:219383

TI Theoretical Study on the Electronic Structure and Optical Properties of Mercury-Containing Diethynylfluorene Monomer, Oligomer, and Polymer

AU Liao, Yi; Feng, Ji-Kang; Yang, Li; Ren, Ai-Min; Zhang, Hong-Xing

CS State Key Laboratory of Theoretical and Computational Chemistry, Institute of Theoretical Chemistry, Jilin University, Changchun, 130023, Peop. Rep. China

SO Organometallics (2005), 24(3), 385-394
CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

AB The authors present a 1st-principles study of the structural, electronic, and optical properties on Hg-containing 2,7-diethynylfluorene monomer, oligomer, and polymer, e.g. bis[[7-[(methylmercurio)ethynyl]-9H-fluoren-2-yl]ethynyl]mercury. The aim of the authors' quantum-chemical calcns. is to shed light on the role of the transition metal centers in the organometallic system in terms of electronic structure and to estimate the influence of metal on the optical properties of the Hg polyyne polymer as well as the nature of luminescence in the polymer. There is a weak electronic interaction between the metal-based fragment and the π -conjugated organic segments, and consequently the photophys. properties are mainly based on the diethynylfluorene π -conjugated fragment (TFT)

with little contribution from the metal center. The role of the metal center can be described as weak delocalization coupled with strong localization characteristics along the organometallic polymer backbone. The lowest singlet and triplet excited state were studied by the singles CI (CIS) method and time-dependent d. functional method (TDDFT). Comparison of the CIS optimized excited state structure and the Hartree-Fock ground state structure indicates that the geometric shift is mainly confined within one repeat unit in polymer. This strongly localized character of the excited state is illustrated by a frontier orbital contour plot and explained as the effect of the heavy metal, which forms some barrier to delocalization along the conjugated chain. Both singlet and triplet excited states of the polymer are localized mainly on the conjugated ligand segment. Through the chain length dependence of emission energies, the authors extrapolated an emission peak at 384.9 nm in the polymer, which is comparable to 382 nm observed exptl. for solution

phase

photoluminescence.

- CC 29-9 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 35, 73
- ST mercury diethynylfluorene monomer oligomer polymer electronic structure luminescence theory; B3LYP density functional theory mercury diethynylfluorene monomer oligomer polymer; CIS MO mercury diethynylfluorene monomer oligomer polymer; electron localization mercury diethynylfluorene monomer oligomer polymer theory; fluorescence mercury diethynylfluorene monomer oligomer polymer; phosphorescence mercury diethynylfluorene monomer oligomer polymer
- IT Density functional theory
(B3LYP, time-dependent; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT CI (molecular orbital method)
(CIS; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT LUMO (molecular orbital)
(HOMO gap; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT HOMO (molecular orbital)
(LUMO gap; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT Ab initio methods
(ONIOM; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT Polymers, properties
RL: PRP (Properties)
(metal-containing; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT Polymer chains
(oligomer chain length correlation with excitation energy; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)
- IT Molecular structure
(optimized; of mercury monomeric and oligomeric complexes with diethynylfluorene dianions)
- IT Conformation
Electron localization
Energy level excitation
Excited singlet state
Excited triplet state
Fluorescence

HOMO (molecular orbital)
Hartree-Fock method
LUMO (molecular orbital)

Luminescence**Phosphorescence**

(theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)

IT 625443-28-9

RL: PRP (Properties)

(FMOs; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)

IT 841303-20-6

RL: PRP (Properties)

(optimized structure using ONIOM method; theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)

IT 94463-11-3, 2,7-Diethynyl-9H-fluorene 389625-90-5, 2,7-

Bis[(methylmercurio)ethynyl]-9H-fluorene 841303-16-0,

Bis(7-ethynyl-9H-fluorene-2-yl)acetylene 841303-17-1,

2,7-Bis[(7-ethynyl-9H-fluorene-2-yl)ethynyl]-9H-fluorene 841303-18-2,

Bis[[7-[(methylmercurio)ethynyl]-9H-fluorene-2-yl]ethynyl]mercury

841303-19-3, 2,7-Bis[[[7-[(methylmercurio)ethynyl]-9H-fluorene-2-

yl]ethynyl]mercurio]ethynyl]-9H-fluorene 841303-22-8

RL: PRP (Properties)

(theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)

IT 841303-16-0, Bis(7-ethynyl-9H-fluorene-2-yl)acetylene

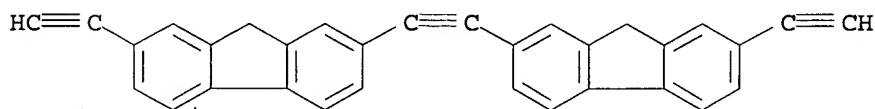
841303-17-1, 2,7-Bis[(7-ethynyl-9H-fluorene-2-yl)ethynyl]-9H-fluorene

RL: PRP (Properties)

(theor. study on electronic structure and optical properties of mercury-containing diethynylfluorene monomer, oligomer, and polymer)

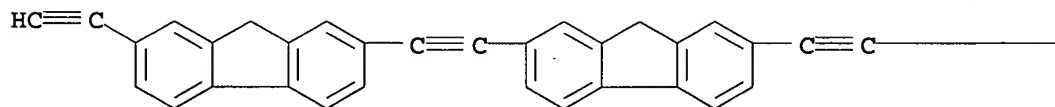
RN 841303-16-0 HCAPLUS

CN 9H-Fluorene, 2,2'-(1,2-ethynediyl)bis[7-ethynyl]- (9CI) (CA INDEX NAME)



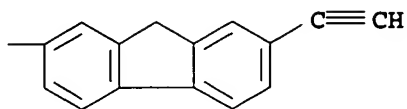
RN 841303-17-1 HCAPLUS

CN 9H-Fluorene, 2,7-bis[(7-ethynyl-9H-fluorene-2-yl)ethynyl]- (9CI) (CA INDEX NAME)



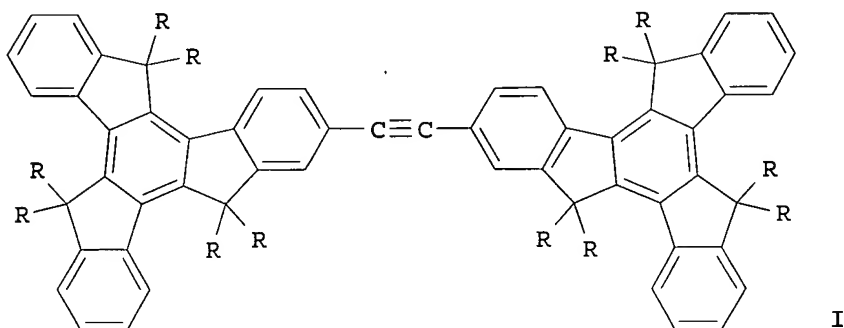
PAGE 1-A

PAGE 1-B



RE.CNT 103 THERE ARE 103-CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:1023663 HCAPLUS
DN 142:134289
TI π -Conjugated Twin Molecules Based on Truxene: Synthesis and Optical Properties
AU Cao, Xiao-Yu; Zhang, Wei; Hong, Zi; Pei, Jian
CS The Key Laboratory of Bioorganic Chemistry and Molecular Engineering of Ministry of Education, College of Chemistry and Molecular Engineering, Peking University, Beijing, 100871, Peop. Rep. China
SO Organic Letters (2004), 6(26), 4845-4848
CODEN: ORLEF7; ISSN: 1523-7060
PB American Chemical Society
DT Journal
LA English
OS CASREACT 142:134289
GI

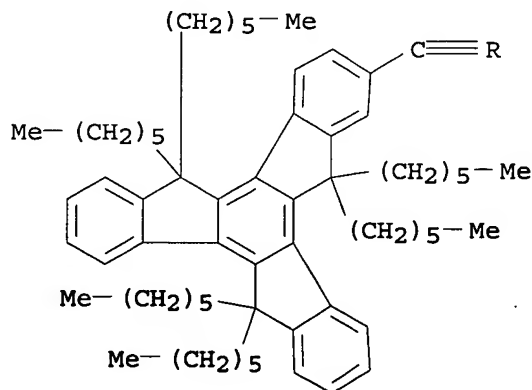


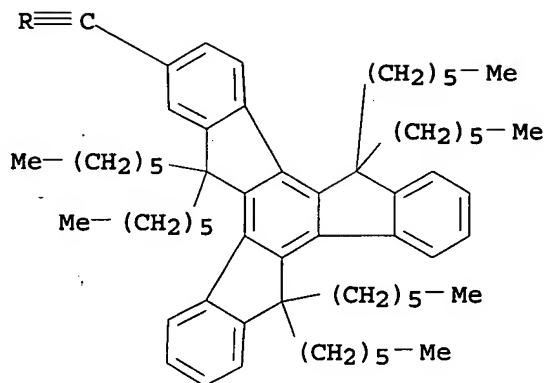
I

AB Dimeric dihydrodiindeno[1,2- α ;1',2'-c]fluorenes (truxenes) such as I (R = BuCH_2CH_2) are prepared as potential compds. for blue light emitting materials; the fluorescence, photoluminescence, and UV/visible spectra of the title compds. are obtained. Regioselective iodination of a hexahexyltruxene with iodine and periodic acid yields 2-iodo-5,5,10,10,15,15-hexahexyl-10,15-dihydrotribenzo[a,f,k]triindene (II); Sonogashira coupling of II with 2-methyl-3-butyne-2-ol followed by in-situ deprotection of the alkyne and Sonogashira coupling with II yields ethynyl-linked truxene dimer I. Lithiation of II, addition to tri-Me borate, and transesterification with 1,3-propanediol yields a truxeneboronic acid 1,3-propanediol ester; Suzuki coupling of the truxeneboronate with 5,5'-dibromospirobifluorene yields a spirobifluorenyl-linked truxene dimer. McMurry coupling of 2-acetyl-5,5,10,10,15,15-hexahexyl-10,15-dihydrotribenzo[a,f,k]triindene with zinc and titanium tetrachloride yields a vinyl-linked truxene dimer. Optical, photoluminescence, and fluorescence spectra demonstrate that the optical properties of the

- title compds. are strongly affected by the nature of the linking group.
- CC 25-28 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 73
- ST hydrodiindenofluorene dimer prepn optical property; truxene dimer vinyl ethynyl spirobifluorene linker prepn optical property; UV visible photoluminescence fluorescence spectrum truxene dimer; pi conjugated twin mol based truxene prepn optical property
- IT Fluorescence
Luminescence
UV and visible spectra
(preparation of dimeric truxenes (dihydrodiindeno[1,2- α ;1',2'-c]fluorenes) and their UV/visible, fluorescence, and photoluminescence spectra)
- IT 825655-31-0P 825655-32-1P 825655-33-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of dimeric truxenes (dihydrodiindeno[1,2- α ;1',2'-c]fluorenes) and their UV/visible, fluorescence, and photoluminescence spectra)
- IT 115-19-5, 2-Methyl-3-butyn-2-ol 504-63-2, 1,3-Propanediol 171408-84-7
600172-85-8 622411-45-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of dimeric truxenes (dihydrodiindeno[1,2- α ;1',2'-c]fluorenes) and their UV/visible, fluorescence, and photoluminescence spectra)
- IT 672314-70-4P 825655-29-6P 825655-30-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of dimeric truxenes (dihydrodiindeno[1,2- α ;1',2'-c]fluorenes) and their UV/visible, fluorescence, and photoluminescence spectra)
- IT 825655-32-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of dimeric truxenes (dihydrodiindeno[1,2- α ;1',2'-c]fluorenes) and their UV/visible, fluorescence, and photoluminescence spectra)
- RN 825655-32-1 HCAPLUS
- CN 5H-Tribenzo[a,f,k]trindene, 2,2'-(1,2-ethynediyl)bis[5,5,10,10,15,15-hexahexyl-10,15-dihydro- (9CI) (CA INDEX NAME)

PAGE 1-A

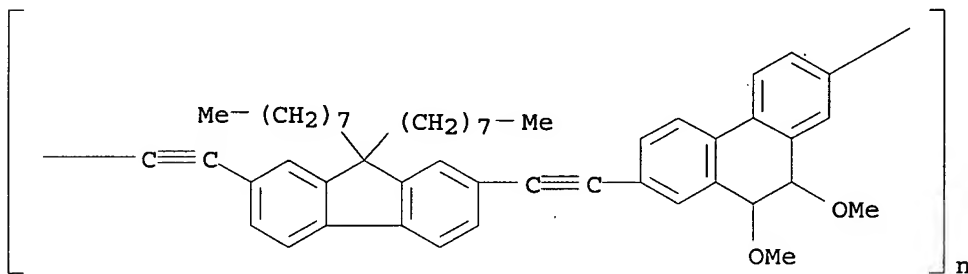




RE.CNT 81 THERE ARE 81 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:921153 HCAPLUS
DN 142:74932
TI Synthesis of soluble poly(9,10-dihydrophenanthrene-2,7-diyl)s. A new class of **luminescent** poly(p-phenylene)s with ethylene type bridges
AU Yamamoto, Takakazu; Asao, Takahiro; Fukumoto, Hiroki
CS Chemical Resources Laboratory, Tokyo Institute of Technology, Midori-ku, Yokohama, 226-8503, Japan
SO Polymer (2004), 45(24), 8085-8089
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Ltd.
DT Journal
LA English
AB Poly(9,10-dihydrophenanthrene-2,7-diyl)s with -OSi(R)₂(R') groups at the 9,10-positions were synthesized by dehalogenative polycondensation of the corresponding monomers by using a zerovalent nickel complex. They showed number average mol. wts. (Mn's) of 9800-69,000 and high quantum yields (62%-quant.) in **photoluminescence**. Palladium catalyzed copolymn. of 2,7-dibromo-9,10-dihydrophenanthrene having -OCH₃ or -OSi(R)₂(R') groups at the 9,10-positions with diethynyl- or diboronic-aromatic compds. also gave **photoluminescent** polymers with high quantum yields.
CC 35-5 (Chemistry of Synthetic High Polymers)
ST polydihydrophenanthrenediyls **luminescent**
IT **Luminescence**
(synthesis of soluble **luminescent luminescent** polydihydrophenanthrenediyls)
IT Polyacetylenes, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of soluble **luminescent luminescent** polydihydrophenanthrenediyls)
IT 813434-87-6P 813434-88-7P 813434-89-8P 813434-90-1P 813434-91-2P
813434-92-3P 813434-93-4P 813434-94-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of soluble **luminescent luminescent** polydihydrophenanthrenediyls)
IT 74-88-4, Methyl iodide, reactions 79-37-8, Oxalyl dichloride 995-45-9
18643-08-8 156206-34-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of soluble **luminescent luminescent**

polydihydrophenanthrenediyls)
 IT 690258-45-8P 813434-83-2P 813434-84-3P 813434-85-4P 813434-86-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (synthesis of soluble luminescent luminescent
 polydihydrophenanthrenediyls)
 IT 813434-92-3P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of soluble luminescent luminescent
 polydihydrophenanthrenediyls)
 RN 813434-92-3 HCAPLUS
 CN Poly[(9,10-dihydro-9,10-dimethoxy-2,7-phenanthrenediyl)-1,2-ethynediyl(9,9-
 dioctyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME).

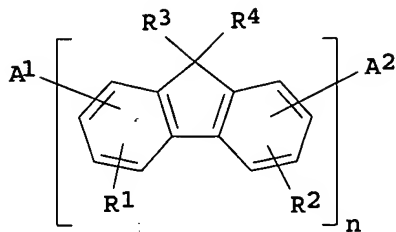


RE.CNT 19 . THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:203784 HCAPLUS
 DN 140:254982
 TI Fluorene dyes and organic electroluminescent devices using them
 IN Suzuki, Koichi; Hiraoka, Mizuho; Senoo, Akihiro; Yamada, Naoki; Negishi,
 Chika; Saito, Akihito; Tanaka, Daisaku; Yashiro, Ryoji
 PA Canon Kabushiki Kaisha, Japan
 SO PCT Int. Appl., 87 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004020372	A1	20040311	WO 2003-JP10259	20030812
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004083481	A2	20040318	JP 2002-246447	20020827
US 2004253389	A1	20041216	US 2004-491745	20040406
PRAI JP 2002-246447	A	20020827		
WO 2003-JP10259	W	20030812		
OS MARPAT 140:254982				

GI



AB Fluorene dyes (I; A1, A2 = optionally substituted polycyclic aromatic group; R1, R2 = H, organic group, substituted amino, CN, halogen; n = 1-10) are disclosed which are used to provide organic **electroluminescent** devices. Such devices have an optical output exhibiting a high luminance with an extremely high efficiency, and have extremely high durability. In an example, 2,7-dibromo-9,9-dimethylfluorene was condensed (1:2) with 1-pyreneboronic acid to give a fluorescent dye.

IC ICM C07C013-573

ICS C07C013-62; C07C013-66; C07C022-08; C07C025-22; C07C211-61;
C07C217-92; C07D213-53; C07D219-02; C07D333-16; C09K011-06;
H05B033-14; H05B033-22

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 25, 74, 76

ST fluorene dye prodn **electroluminescent** device

IT **Electroluminescent** devices

Fluorescent dyes

(fluorene dyes and organic **electroluminescent** devices using them)

IT 669015-91-2 669015-92-3 669015-95-6 669015-96-7 669015-97-8
669015-98-9 669015-99-0 669016-00-6 669016-01-7 669016-02-8
669016-03-9 669016-04-0 669016-05-1 669016-06-2 669016-07-3
669016-48-2 669016-49-3 669016-50-6 669701-49-9

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(fluorene dyes and organic **electroluminescent** devices using them)

IT 33895-41-9 34904-22-8 106614-56-6 130965-28-5 143886-09-3
202590-16-7 203459-05-6 216454-35-2 228871-85-0 239475-91-3
361486-60-4 522653-17-4 607739-77-5 607739-84-4 669016-09-5
669016-10-8 669016-11-9 669016-12-0 669016-13-1 669016-14-2
669016-15-3 669016-16-4 669016-17-5 669016-18-6 669016-19-7
669016-20-0 669016-21-1 669016-22-2 669016-23-3 669016-24-4
669016-25-5 669016-26-6 669016-27-7 669016-28-8 669016-29-9
669016-30-2 669016-31-3 669016-32-4 669016-33-5 669016-34-6
669016-35-7 669016-36-8 669016-37-9 669016-38-0 669016-39-1
669016-40-4 669016-41-5 669016-42-6 669016-43-7 669016-44-8
669016-45-9 669016-46-0 669016-47-1

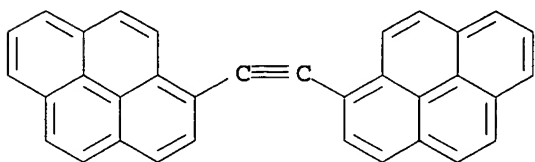
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(in organic **electroluminescent** devices using fluorene dyes)

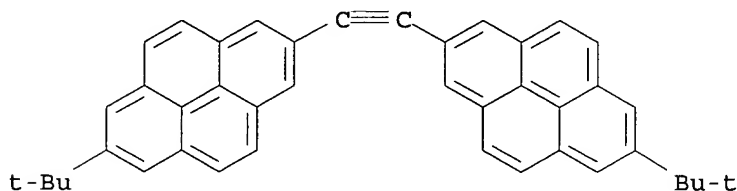
IT 607739-80-0P 607739-82-2P 669015-93-4P 669016-08-4P

RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (production of fluorene dyes and organic **electroluminescent** devices using them)

IT 23683-68-3, 3-Bromoperylene 28320-32-3, 2,7-Dibromo-9,9-dimethylfluorene
 164461-18-1 325129-69-9 607739-64-0 669015-94-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; production of fluorene dyes and organic
electroluminescent devices using them)
 IT 33895-41-9 669016-46-0
 RL: DEV (Device component use); TEM (Technical or engineered material
 use); USES (Uses)
 (in organic **electroluminescent** devices using fluorene dyes)
 RN 33895-41-9 HCAPLUS
 CN Pyrene, 1,1'-(1,2-ethynediyl)bis- (9CI) (CA INDEX NAME)



RN 669016-46-0 HCAPLUS
 CN Pyrene, 2,2'-(1,2-ethynediyl)bis[7-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:450814 HCAPLUS
 DN 139:28687
 TI Reactive mesogenic azulenes
 IN Farrand, Louise; Findlater, Michael; Giles, Mark; Heeney, Martin; Tierney, Steven; Thompson, Marcus; Shkunov, Maxim; Sparrowe, David; McCulloch, Iain
 PA Merck Patent G.m.b.H., Germany
 SO Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1318185	A1	20030611	EP 2002-25130	20021109
	EP 1318185	B1	20050216		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	AT 289343	E	20050315	AT 2002-25130	20021109
	US 2003168657	A1	20030911	US 2002-314162	20021209
	JP 2003246768	A2	20030902	JP 2002-357772	20021210
PRAI	EP 2001-129217	A	20011210		

AB The invention relates to new reactive mesogenic azulene derivs., their use as semiconductors or charge transport materials, in optical, electro-optical or electronic devices like for example liquid crystal displays, optical films, organic field effect transistors (FET or OFET) for thin film transistor liquid crystal displays and integrated circuit devices such as RFID tags, electroluminescent devices in flat panel displays, and in photovoltaic and sensor devices, and to a field effect transistor, light emitting device or ID tag comprising the reactive mesogenic azulenes.

IC ICM C09K019-32

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 75

ST reactive mesogenic azulenes liq crystal display

IT Optical imaging devices

(flat panels; reactive mesogenic azulenes for)

IT Electroluminescent devices

Electrooptical imaging devices

Liquid crystal displays

Thin film transistors

(reactive mesogenic azulenes for)

IT 105-53-3 624-38-4 629-09-4 935-14-8 2161-40-2 3047-32-3

3806-02-8 36044-40-3 538374-09-3 538374-17-3 538374-32-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactive mesogenic azulenes for liquid crystal displays)

IT 897-41-6P 50469-71-1P 52802-64-9P 65144-76-5P 139423-54-4P

538374-07-1P 538374-08-2P 538374-10-6P 538374-12-8P 538374-14-0P

538374-15-1P, [6,6'-Biazulene]-2,2'-diol 538374-18-4P 538374-20-8P

538374-22-0P 538374-23-1P 538374-25-3P 538374-26-4P 538374-27-5P

538374-29-7P 538374-30-0P 538374-31-1P 538374-33-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(reactive mesogenic azulenes for liquid crystal displays)

IT 538374-11-7P 538374-13-9P 538374-16-2P 538374-19-5P 538374-21-9P

538374-24-2P 538374-28-6P 538374-34-4P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reactive mesogenic azulenes for liquid crystal displays)

IT 538374-24-2P

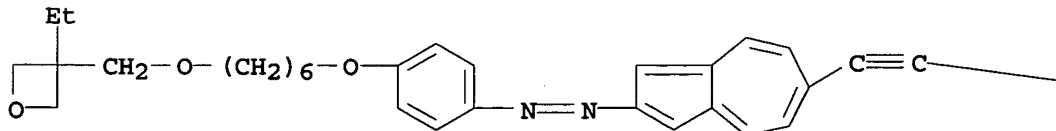
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reactive mesogenic azulenes for liquid crystal displays)

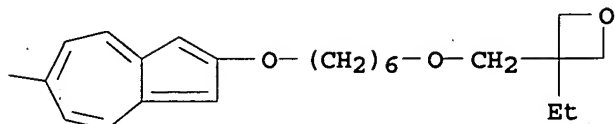
RN 538374-24-2 HCAPLUS

CN Diazene, [6-[[2-[[6-[(3-ethyl-3-oxetanyl)methoxy]hexyl]oxy]-6-azulenyl]ethynyl]-2-azulenyl][4-[[6-[(3-ethyl-3-oxetanyl)methoxy]hexyl]oxy]phenyl]- (9CI) (CA INDEX NAME)

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PAGE 1-B



RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:58421 HCAPLUS

DN 138:128806

TI Light-emitting device and aromatic compound

IN Igarashi, Tatsuya; Qiu, Xuepeng

PA Fuji Photo Film Co., Ltd., Japan

SO PCT Int. Appl., 76 pp.

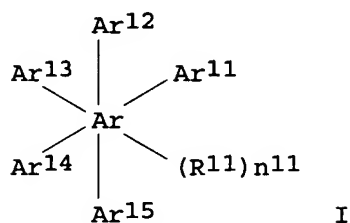
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003007658	A2	20030123	WO 2002-JP6998	20020710
	WO 2003007658	A3	20030703		
	WO 2003007658	C1	20040219		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1412450	A2	20040428	EP 2002-745913	20020710
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2004535051	T2	20041118	JP 2003-513286	20020710
	TW 575540	B	20040211	TW 2002-91115468	20020711
	US 2004232409	A1	20041125	US 2004-483391	20040629
PRAI	JP 2001-211269	A	20010711		
	JP 2001-329676	A	20011026		
	WO 2002-JP6998	W	20020710		
OS	MARPAT 138:128806				
GI					



AB **Light-emitting** devices comprising a pair of electrodes and a **light-emitting** layer or a plurality of organic layers comprising a **light-emitting** layer disposed between them are described in which the **light-emitting** layer or ≥ 1 of the organic layers comprising the **light-emitting** layer comprises ≥ 1 compound represented by the general formula I (Ar11, Ar12, Ar13, Ar14 and Ar15 = independently selected aryl or heteroaryl groups; Ar = a benzene ring, a naphthalene ring, a phenanthrene ring or an anthracene ring; ≥ 1 of Ar, Ar11, Ar12, Ar13, Ar14 and Ar15 is a condensed aryl group, a condensed or uncondensed heteroaryl group or a group comprising a condensed aryl group or a condensed or uncondensed heteroaryl group; Ar11, Ar12, Ar13, Ar14 and Ar15 are not bonded to each other to form a ring; R11 = a substituent; and n11 = an integer ≥ 0). Selected aromatic compds. corresponding to I are claimed.

IC ICM H05B

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

ST **light emitting** device arom compd

IT **Luminescent** substances

(electroluminescent; **light-emitting**

devices using aromatic compds. and aromatic compds.)

IT **Electroluminescent** devices

(organic; **light-emitting** devices using aromatic compds. and aromatic compds.)

IT 174357-75-6 174357-76-7 489429-60-9 489429-61-0

RL: DEV (Device component use); USES (Uses)

(**light-emitting** devices using aromatic compds. and aromatic compds.)

IT 489429-55-2P 489429-56-3P 489429-57-4P 489429-58-5P 489429-59-6P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP

(Preparation); USES (Uses)

(**light-emitting** devices using aromatic compds. and aromatic compds.)

IT 479-33-4, Tetraphenylcyclopentadienone 10075-85-1 23975-18-0

33895-41-9 34993-56-1, 1-Ethynylpyrene 489429-62-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(**light-emitting** devices using aromatic compds. and aromatic compds.)

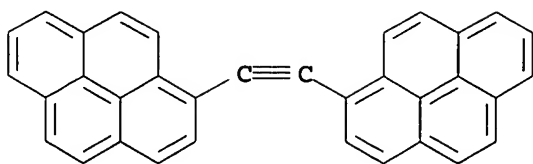
IT 33895-41-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(**light-emitting** devices using aromatic compds. and aromatic compds.)

RN 33895-41-9 HCAPLUS

CN Pyrene, 1,1'-(1,2-ethynediyl)bis- (9CI) (CA INDEX NAME)

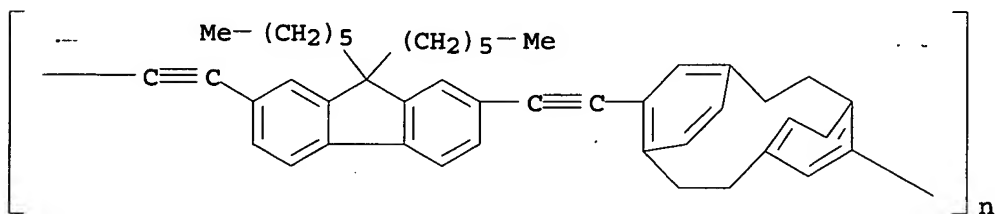


L24 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:120954 HCAPLUS
 DN 136:341088
 TI Synthesis of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain leading to the blue light-emitting materials
 AU Morisaki, Yasuhiro; Chujo, Yoshiki
 CS Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, Kyoto, 606-8501, Japan
 SO Chemistry Letters (2002), (2), 194-195
 CODEN: CMLTAG; ISSN: 0366-7022
 PB Chemical Society of Japan
 DT Journal
 LA English
 AB Novel through-space π -conjugated polymers having [2.2]paracyclophane and fluorene units were synthesized by Heck-Sonogashira coupling reaction. The polymers exhibited strong blue fluorescence in solution and in the solid state.
 CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 73
 ST alternating conjugated copolymer paracyclophane fluorene
 IT Polymers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (conjugated; preparation and property of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain)
 IT Coupling reaction
 (in preparation and property of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain)
 IT Fluorescence
 Molecular weight
 Molecular weight distribution
 Optical absorption
 (preparation and property of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain)
 IT 96392-77-7P 418764-57-5P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (in preparation and property of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain)
 IT 1633-22-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in preparation and property of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain)
 IT 418764-13-3P 418764-14-4P 418764-15-5P
 418764-69-9P 418764-70-2P 418764-71-3P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and property of novel alternating π -conjugated copolymers having [2.2]paracyclophane and fluorene units in the main chain)
 IT 418764-13-3P 418764-14-4P 418764-15-5P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and property of novel alternating π -conjugated copolymers

having [2.2]paracyclophane and fluorene units in the main chain)

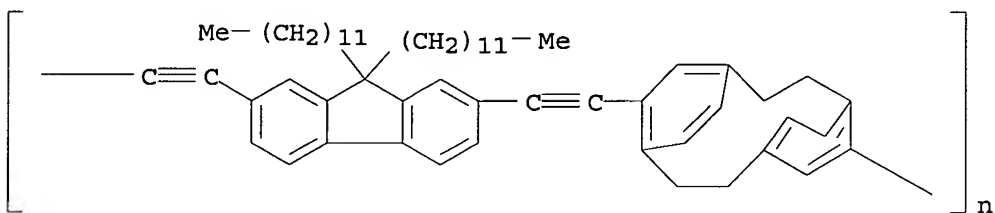
RN 418764-13-3 HCAPLUS

CN Poly[tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaene-5,11-diyl-1,2-ethynediyl(9,9-dihexyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



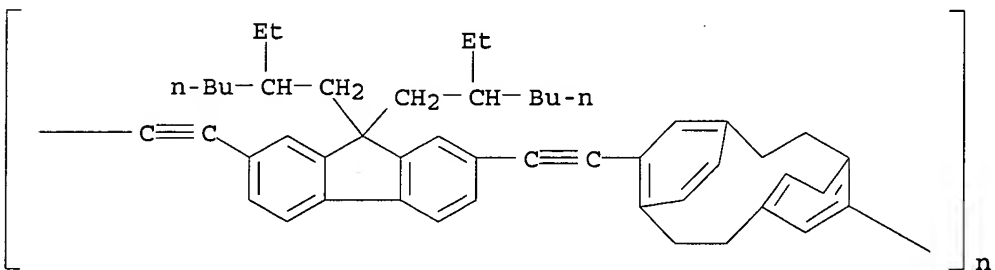
RN 418764-14-4 HCAPLUS

CN Poly[tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaene-5,11-diyl-1,2-ethynediyl(9,9-didodecyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 418764-15-5 HCAPLUS

CN Poly[tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaene-5,11-diyl-1,2-ethynediyl(9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:32363 HCAPLUS

DN 136:279770

TI Synthesis and characterization of fluorene-based
electroluminescent polymers containing silyl groups

AU Chang, S. W.; Hong, J.-M.; Hong, J. W.; Cho, H. N.

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

CS Polymer Materials Laboratory, KIST, Seoul, 130-650, S. Korea
 SO Polymer Bulletin (Berlin, Germany) (2001), 47(3-4), 231-238
 CODEN: POBUDR; ISSN: 0170-0839
 PB Springer-Verlag
 DT Journal
 LA English
 AB Two types of fluorene-based copolymers, poly(9,9'-di-n-hexyl-2,7-fluorene-diylethynylene-alt-9-trimethylsilyl-2,7-fluorene-ethynylene) [P-1], poly(9,9'-di-n-hexyl-2,7-fluorene-diylethynylene-alt-9,9'-bis-trimethylsilyl-2,7-fluorene-ethynylene) [P-2] were synthesized by employing palladium catalyzed polycondensation. Resulting polymers showed a good solubility in various organic solvents such as THF, chloroform, dioxane etc.

and

could be easily spin-coated onto an ITO glass plate to make a fine thin film. Characterization of these polymers includes FT-IR, UV-vis., ¹H and ¹³C-NMR, was conducted. Thermal properties were also investigated by DSC and TGA as well as mol. weight studies. The present polymers exhibited emission of blue-white color. The photoluminescence (PL) spectrum of the polymers showed two peaks at 490 and 540 nm and it was found that electroluminescence (EL) spectra of the polymer [P-2] was very similar to its PL spectrum.

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 76

ST fluorene silyl group polyacetylene prepn photo electroluminescence thermal stability

IT Polyacetylenes, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation).
 (fluorene group-containing; fluorene-based electroluminescent polymers containing silyl groups)

IT Band gap

Luminescence

Luminescence, electroluminescence

Thermal stability

(fluorene-based electroluminescent polymers containing silyl groups)

IT 7681-65-4, Copper iodide (CuI) 13965-03-2, Bis-triphenylphosphinepalladium dichloride

RL: CAT (Catalyst use); USES (Uses)

(fluorene-based electroluminescent polymers containing silyl groups)

IT 405927-93-7P 405927-94-8P 405927-95-9P 405927-96-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (fluorene-based electroluminescent polymers containing silyl groups)

IT 75-77-4, Chlorotrimethylsilane, reactions 86-73-7, Fluorene 1066-54-2, Trimethylsilyl acetylene 24959-67-9, Bromide, reactions 123863-97-8, 9,9-Dihexylfluorene

RL: RCT (Reactant); RACT (Reactant or reagent)

(fluorene-based electroluminescent polymers containing silyl groups)

IT 7351-45-3P, 9,9-Bis-trimethylsilyl fluorene 7385-10-6P, 9-Trimethylsilyl fluorene 17955-84-9P, 2,7-Dibromo-9-trimethylsilylfluorene 136453-55-9P, 2,7-Dibromo-9,9-bis(trimethylsilyl)fluorene 189367-54-2P, 2,7-Dibromo-9,9-dihexylfluorene 220625-89-8P, 2,7-Bis-[(trimethylsilyl)ethynyl]-9,9-dihexylfluorene 220625-90-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(fluorene-based electroluminescent polymers containing silyl groups)

IT 7789-23-3, Potassium fluoride

RL: RGT (Reagent); RACT (Reactant or reagent)
(fluorene-based **electroluminescent** polymers containing silyl groups)

IT 14221-01-3, Tetrakis(triphenylphosphine) palladium

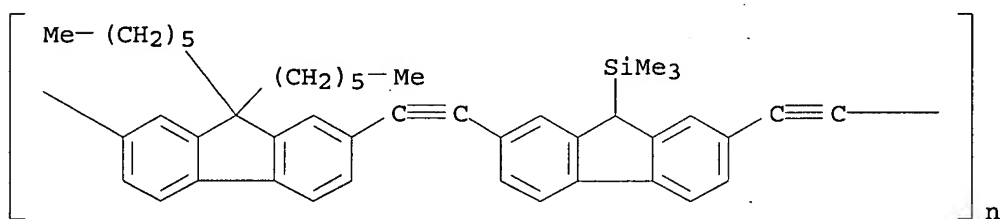
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalyst, copolymn.; fluorene-based **electroluminescent** polymers containing silyl groups)

IT 405927-95-9P 405927-96-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(fluorene-based **electroluminescent** polymers containing silyl groups)

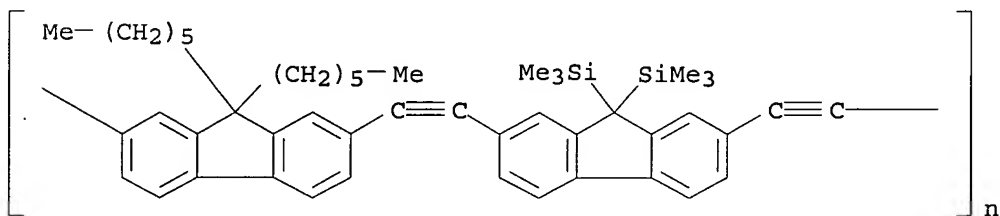
RN 405927-95-9 HCAPLUS

CN Poly[(9,9-dihexyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl[9-(trimethylsilyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 405927-96-0 HCAPLUS

CN Poly[(9,9-dihexyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl[9,9-bis(trimethylsilyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:381154 HCAPLUS

DN 135:172773

TI Synthesis and Characterization of Oligo(9,9-dihexyl-2,7-fluorene ethynylene)s: For Application as Blue **Light-Emitting** Diode

AU Lee, Sang Ho; Nakamura, Toshikazu; Tsutsui, Tetsuo

CS Department of Applied Science for Electronics and Materials Graduate School of Engineering Sciences, CREST Japan Science and Technology Corporation (JST) Kyushu University, Kasuga, Fukuoka, 816-8580, Japan

SO Organic Letters (2001), 3(13), 2005-2007

CODEN: ORLEF7; ISSN: 1523-7060

PB American Chemical Society

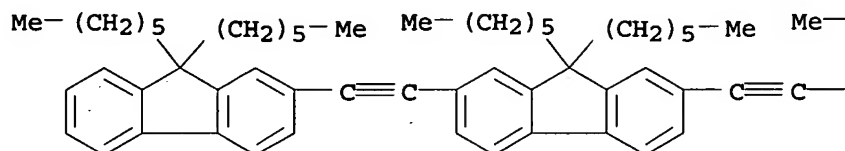
DT Journal

LA English

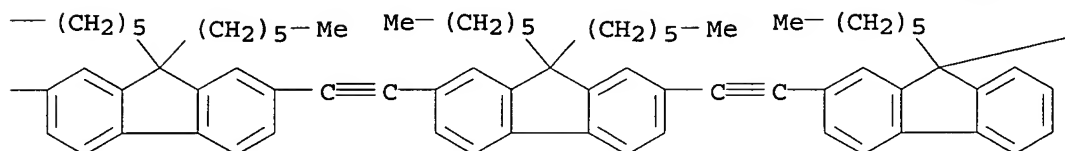
- AB Highly soluble and strongly blue fluorescent oligo(9,9-dihexyl-2,7-fluorene ethynylene)s (OFES) were synthesized by a Pd/Cu-catalyzed Sonogashira coupling reaction. An organic light-emitting diode using pentamer 15 as the emitting material was successfully fabricated and emitted a bright blue light.
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
- ST synthesis dihexyl fluorene ethynylene LED Sonogashira coupling reaction
- IT Coupling reaction
(Sonogashira; synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT Electroluminescent devices
(blue-emitting; synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT Band gap
(optical; synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT Luminescence
Synthesis
UV and visible spectra
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT 353516-87-7P
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT 353516-81-1P 353516-83-3P 353516-85-5P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT 86-73-7, Fluorene 115-19-5, 3-Methyl-1-butyn-3-ol
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT 2523-42-4P, 2-Iodofluorene 220625-90-1P 319906-42-8P 353516-89-9P 353516-91-3P 353516-93-5P 353516-95-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- IT 353516-87-7P
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)
- RN 353516-87-7 HCAPLUS
- CN 9H-Fluorene, 2,7-bis[[7-[(9,9-dihexyl-9H-fluoren-2-yl)ethynyl]-9,9-dihexyl-

9H-fluoren-2-yl]ethynyl]-9,9-dihexyl- (9CI) (CA INDEX NAME)

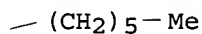
PAGE 1-A



PAGE 1-B



PAGE 1-C

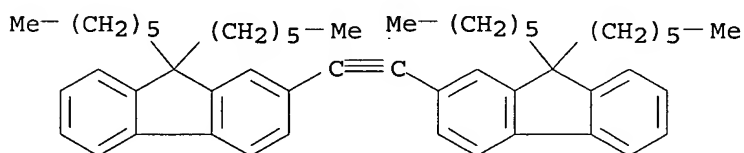


IT 353516-81-1P 353516-83-3P 353516-85-5P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)

RN 353516-81-1 HCAPLUS

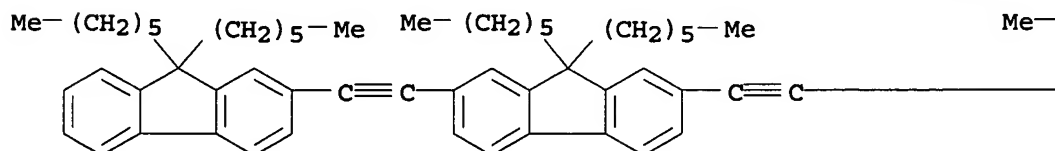
CN 9H-Fluorene, 2,2'-(1,2-ethynediyl)bis[9,9-dihexyl- (9CI) (CA INDEX NAME)



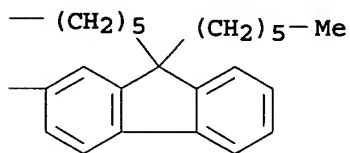
RN 353516-83-3 HCAPLUS

CN 9H-Fluorene, 2,7-bis[(9,9-dihexyl-9H-fluoren-2-yl)ethynyl]-9,9-dihexyl- (9CI) (CA INDEX NAME)

PAGE 1-A

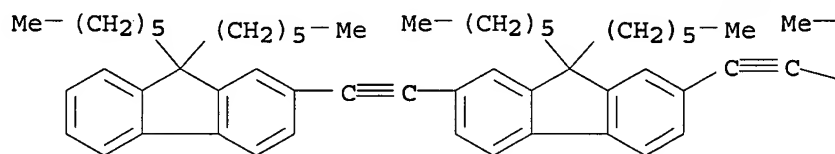


PAGE 1-B

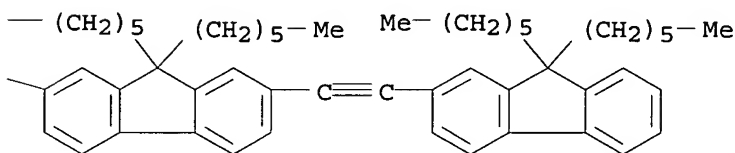


RN 353516-85-5 HCAPLUS
 CN 9H-Fluorene, 2,2'-(1,2-ethynediyl)bis[7-[(9,9-dihexyl-9H-fluoren-2-yl)ethynyl]-9,9-dihexyl- (9CI) (CA INDEX NAME)

PAGE 1-A

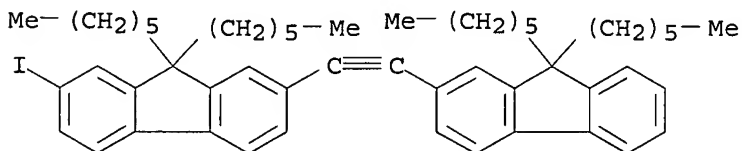


PAGE 1-B

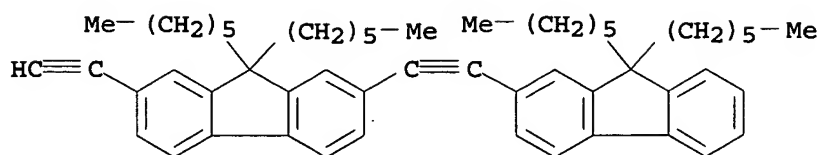


IT 353516-93-5P 353516-95-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis and characterization of oligo(9,9-dihexyl-2,7-fluorene ethynylene)s for application as blue light-emitting diode)

RN 353516-93-5 HCAPLUS
 CN 9H-Fluorene, 2-[(9,9-dihexyl-9H-fluoren-2-yl)ethynyl]-9,9-dihexyl-7-iodo- (9CI) (CA INDEX NAME)



RN 353516-95-7 HCAPLUS
 CN 9H-Fluorene, 2-[(9,9-dihexyl-9H-fluoren-2-yl)ethynyl]-7-ethynyl-9,9-dihexyl- (9CI) (CA INDEX NAME)



RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L24 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:368970 HCAPLUS
DN 135:181052
TI Synthesis and **electroluminescence** of poly(aryleneethynylene)s
based on fluorene containing hole-transport units
AU Zhan, Xiaowei; Liu, Yunqi; Yu, Gui; Wu, Xia; Zhu, Daoben; Sun, Runguang;
Wang, Daike; Epstein, Arthur J.
CS Institute of Chemistry, Center for Molecular Science, Chinese Academy of
Sciences, Beijing, 100080, Peop. Rep. China
SO Journal of Materials Chemistry (2001), 11(6), 1606-1611
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB A series of **light-emitting** poly(arylene ethynylene)s
(PAE) based on fluorene with sterically hindered substituents containing hole
transport units such as tetraphenyl-diaminobiphenyl, carbazole, and
thiophene and the non-planar unit binaphthyl, were synthesized by
palladium-catalyzed coupling reaction. The introduction of hole transport
moieties into the PAE main chain improved the luminance properties of PAE
polymers. The electronic structure and photo- and
electroluminescent (EL) properties of these polymers can
be manipulated by simply varying the nature of the co-units in the
polymeric chain. The spectral emission varies from greenish-blue to green
or yellowish-green, depending on the composition of the copolymers. A
single-layer test device, **light-emitting diode** (LED)
prepared from poly{[2,7-diethynyl-9,9-bis(2-ethylhexyl)fluorene]-alt-[N,N'-
diphenyl-N,N'-bis(4-phenyl)-1,1'-biphenyl-4,4'-diamine]} (TPD-PFE) using
an aluminum electrode **emits green light** (510 nm) with
an EL external quantum efficiency of 0.007% and a brightness of
30 cd m⁻² at a bias voltage of 27 V and a c.d. of 420 mA cm⁻². An
EL external quantum efficiency of 0.06% can be obtained from a
blue-emitting double-layer LED with the structure of ITO/TPD-PFE/2-(2-
hydroxyphenyl)pyridylberyllium/LiF/AlLi at a c.d. of 38 mA cm⁻².
CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
ST polyaryleneethynylene conjugated polymer aminobiphenyl carbazole unit
prepn; palladium catalyzed coupling polymn arylene ethynylene thiophene
unit; polyphenylene polythiophene polyacetylene prepn
electroluminescence
IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(conjugated; preparation and **electroluminescence** and redox
potential of **light-emitting** poly(arylene
ethynylene)s with diaminobiphenyl and carbazole and thiophene hole
transport units)
IT Polymerization
(coupling; preparation and **electroluminescence** and redox potential
of **light-emitting** poly(arylene ethynylene)s with

- IT diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Redox reaction
 - (electrochem.; preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Light
 - (green; preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Electroluminescent devices
 - (light-emitting diodes; electroluminescence and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)
- IT Polyphenyls
 - RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyacetylene-; preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Polyacetylenes, preparation
 - RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyphenyl-; preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Polyacetylenes, properties
 - RL: PRP (Properties) (polythiophene-, polyphenyl; preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Coupling reaction
 - Electron configuration
 - Luminescence, electroluminescence
 - Redox potential
 - (preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT 14221-01-3, Tetrakis(triphenylphosphine)palladium
 - RL: CAT (Catalyst use); USES (Uses) (coupling polymerization catalyst; preparation and electroluminescence and redox potential of light-emitting poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT 7429-90-5, Aluminum, uses 12042-37-4, Al, Li 50926-11-9, Indium tin oxide
 - RL: DEV (Device component use); USES (Uses) (electrode; electroluminescence and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)
- IT 344782-51-0 344782-53-2
 - RL: DEV (Device component use); PRP (Properties); USES (Uses) (electroluminescence and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)
- IT 355804-12-5 355804-13-6
 - RL: PRP (Properties) (electroluminescence and redox potential and band gap of poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)
- IT 220694-90-6

RL: DEV (Device component use); USES (Uses)
 (electron transport layer; **electroluminescence** and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)

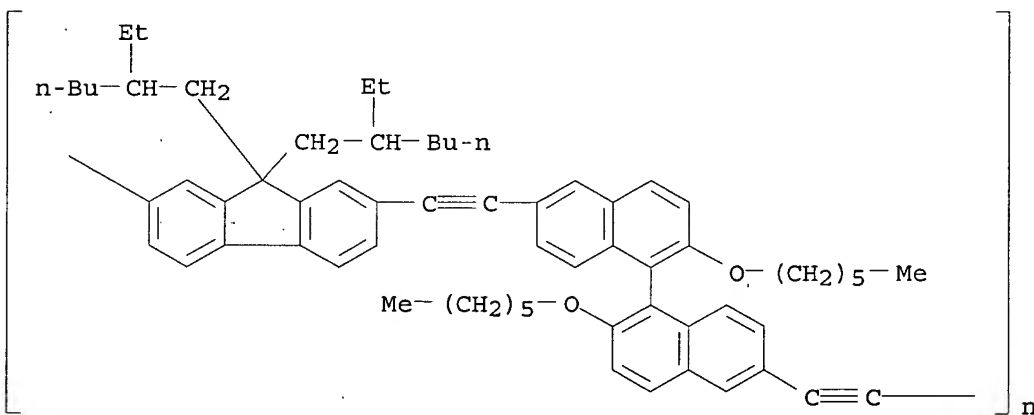
IT 7789-24-4, Lithium fluoride, uses
 RL: DEV (Device component use); USES (Uses)
 (insulating layer; **electroluminescence** and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)

IT 344782-58-7 344782-59-8
 RL: PRP (Properties) ----
 (preparation and **electroluminescence** and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units).

IT 355804-06-7P 355804-07-8P 355804-08-9P 355804-09-0P 355804-10-3P 355804-11-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and **electroluminescence** and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

IT 355804-11-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and **electroluminescence** and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

RN 355804-11-4 HCAPLUS
 CN Poly[[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl[2,2'-bis(hexyloxy)[1,1'-binaphthalene]-6,6'-diyl]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2000:593940 HCAPLUS
 DN 133:322249
 TI Synthesis and optical properties of naphthalene-containing conjugated polymers
 AU Peng, Zhonghua; Pan, Yongchun
 CS Department of Chemistry, University of Missouri-Kansas City, Kansas City, MO, 64110, USA
 SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2000), 41(2), 1273-1274
 CODEN: ACPPAY; ISSN: 0032-3934

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

PB American Chemical Society, Division of Polymer Chemistry

DT Journal

LA English

AB Four conjugated polymers containing naphthalene in the backbone were synthesized by the Pd-catalyzed Heck coupling reaction and by the Sonogashira reaction. The monomers were prepared from diiodonaphthalenes which can be easily converted to divinyl naphthalenes by the Heck coupling reaction or to diethynyl naphthalenes by the Sonogashira reaction. The diiodonaphthalenes in turn were obtained by direct iodination by lithiation of the dibromides followed by treatment with I; the diiodonaphthalenes were also suitable monomers for coupling polymerization with vinyl naphthalenes or ethynyl naphthalenes. The two polymers containing ethynyl bonds in the backbone exhibit rather strong aggregation in the solid state that results in significant quenching of photoluminescence (PL). The polymers with vinyl bonds in the backbone, exhibit high solid-state PL quantum efficiency. These polymer systems are of interest for LED applications.

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73

ST naphthalene ethynyl conjugated polymer prepn optical property; vinyl naphthalene conjugated polymer prepn photoluminescence; coupling polymn iodonaphthalene vinyl naphthalene ethynyl naphthalene photoluminescent polymer; polynaphthalenyl vinylene polyacetylene naphthalene prepn aggregation photoluminescence quenching

IT Coupling reaction

(Heck and Sonogashira; preparation of monomers and coupling polymerization.

and

fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)

IT Polymers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (conjugated; preparation of monomers and coupling polymerization and

fluorescence

and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)

IT Polymerization

(coupling, Heck and Sonogashira; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)

IT Poly(arylenealkenylenes)

Polyacetylenes, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (naphthalene-containing; preparation of monomers and coupling

polymerization and

fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)

IT Fluorescence

Luminescence quenching

Self-association

UV and visible spectra

(preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)

IT 14221-01-3, Palladium tetrakis(triphenylphosphine)

RL: CAT (Catalyst use); USES (Uses)

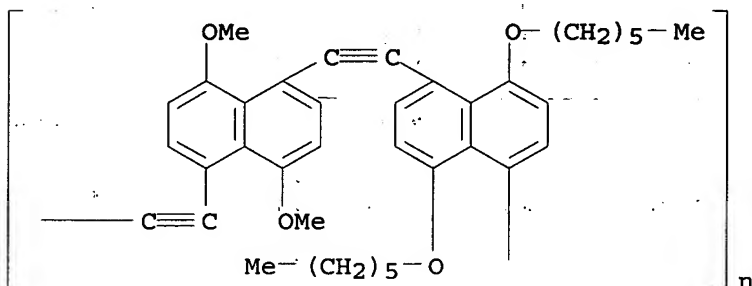
(Heck coupling catalyst; preparation of monomers and coupling

polymerization and

- fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 3375-31-3, Diacetatopalladium
 RL: CAT (Catalyst use); USES (Uses)
 (Heck coupling polymerization catalyst; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 7681-65-4, Copper iodide (CuI) 13965-03-2, Dichlorobis(triphenylphosphine)palladium
 RL: CAT (Catalyst use); USES (Uses)
 (Sonogashira coupling polymerization catalyst; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 6163-58-2
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst ligand; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 269407-52-5P 290331-43-0P
 RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate and monomer; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 290331-45-2P 290331-46-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (monomer; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 290331-44-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (monomer; preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 269407-53-6P 269407-54-7P 269407-55-8P 269407-56-9P 302907-21-7P 302907-22-8P 302907-23-9P 302907-24-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 1066-54-2, Trimethylsilylacetylene 7486-35-3, Vinyltributyltin
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)
- IT 302907-24-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of monomers and coupling polymerization and fluorescence and luminescence efficiency of naphthalene-containing polyarylenevinylene and polyacetylene conjugated polymers)

RN 302907-24-0 HCAPLUS

CN Poly[[4,8-bis(hexyloxy)-1,5-naphthalenediyl]-1,2-ethynediyl(4,8-dimethoxy-1,5-naphthalenediyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:155844 HCAPLUS

DN 130:189147

TI Fluorene-based alternating polymers containing acetylene group and electroluminescence element using the same

IN Kim, Chung Yup; Cho, Hyun Nam; Kim, Dong Young; Kim, Young Chul; Lee, Jun Young; Kim, Jai Kyeong

PA Korea Institute of Science and Technology, S. Korea

SO U.S., 27 pp.

CODEN: USXXAM

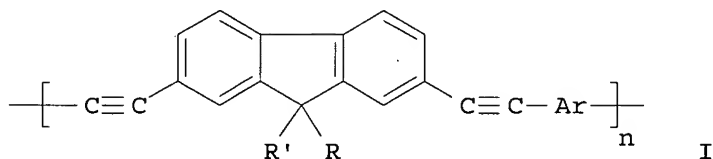
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5876864	A	19990302	US 1997-991753	19971216
	KR 176336	B1	19990401	KR 1996-82444	19961231
PRAI	KR 1996-82444	A	19961231		

GI



AB Electroluminescent polymers are described by the general formula

I (R and R' = groups independently selected from H, C1-22 aliphatic or alicyclic alkyl or alkoxy groups or C6-18 aryl or aryloxy groups such as Me, Et, Pr, iso-Pr, Bu, iso-Bu, pentyl, hexyl, ethylhexyl, heptyl, octyl, isoctyl, nonyl, decyl, dodecyl, hexadecyl, octadecyl, cyclopropyl, cyclopentyl, cyclohexyl, methoxy, ethoxy, butoxy, hexyloxy, methoxyethoxyethyl, methoxyethoxyethoxyethyl, Ph, phenoxy, tolyl, benzyl, naphthyl and anthracene groups, alkyl or aryl derivs. of Si, Sn, or Ge such as trimethylsilyl, triphenylsilyl, tributyltin, or triethylgermanium; Ar = Ph, which may be substituted with C1-22 aliphatic or alicyclic alkyl or

alkoxy groups, di-Ph, diphenylether, diphenylsulfide, diphenylamine, fluorene, terphenyl, naphthalene, anthracene, phenanthrene, heterocyclic compds. such as pyridine, furan, thiophene, alkylthiophene, dithiophene, pyrrole, dipyrrole, dipyrrolemethane, dibenzofuran, dibenzothiophene, diphenyloxadiazole, diphenylthiadiazole, carbazole, diphenylmethane, diphenylsilane, bisformylphenoxyalkane and isomers or derivs. thereof; and $n = \text{an integer} \geq 1$). **Electroluminescent** devices employing the polymers, optionally in blends with other polymers, are also described.

IC ICM H05B033-00

NCL 428690000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

ST electroluminescent fluorene based alternating polymer; device

electroluminescent fluorene based alternating polymer

IT Electroluminescent devices

(electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT Polyacetylenes, uses

RL: DEV (Device component use); USES (Uses)

(electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT Epoxy resins, uses

RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT Phosphors

(electroluminescent, polymeric; electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT 9003-53-6 9011-14-7, Polymethyl methacrylate 25067-59-8, Polyvinylcarbazole

RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT 220625-91-2P 220625-92-3P 220625-93-4P 220625-94-5P

220625-95-6P 220625-96-7P 220625-97-8P 220625-98-9P

220625-99-0P 220626-00-6P 220626-01-7P 220626-02-8P 220626-03-9P

220626-04-0P 220626-05-1P 220626-06-2P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT 189367-54-2P 220625-89-8P 220625-90-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(electroluminescent acetylene group-containing fluorene-based alternating polymers and electroluminescent devices using them)

IT 92-86-4, 4,4'-Dibromobiphenyl 106-37-6, 1,4-Dibromobenzene 108-36-1,

1,3-Dibromobenzene 108-86-1, Bromobenzene, reactions 523-27-3,

9,10-Dibromoanthracene 591-50-4, Iodobenzene 624-38-4,

1,4-Diiodobenzene 626-39-1, 1,3,5-Tribromobenzene 1066-54-2,

Trimethylsilyl acetylene 2050-47-7, 4,4'-Dibromodiphenylether

3001-15-8, 4,4'-Diiodobiphenyl 3141-27-3, 2,5-Di-bromothiophene
 7511-49-1 7789-23-3, Potassium fluoride 10016-52-1,
 2,8-Dibromodibenzofuran 31574-87-5, 2,8-Dibromodibenzothiophene
 32460-00-7, 2,5-Dibromofuran 40307-15-1, 2,8-Dibromodibenzothiophene-5,5-
 dioxide 123863-97-8 128424-36-2 136453-55-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(electroluminescent acetylene group-containing fluorene-based
 alternating polymers and electroluminescent devices using
 them)

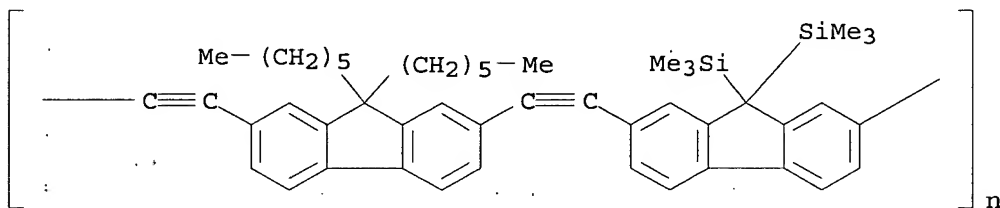
IT 220625-95-6P 220625-97-8P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
 preparation); PREP (Preparation); USES (Uses)

(electroluminescent acetylene group-containing fluorene-based
 alternating polymers and electroluminescent devices using
 them)

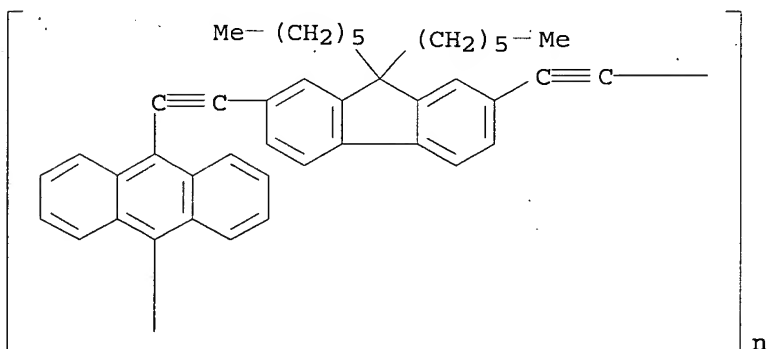
RN 220625-95-6 HCAPLUS

CN Poly[[9,9-bis(trimethylsilyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl(9,9-
 dihexyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 220625-97-8 HCAPLUS

CN Poly[9,10-anthracenediyl-1,2-ethynediyl(9,9-dihexyl-9H-fluorene-2,7-diyl)-
 1,2-ethynediyl] (9CI) (CA INDEX NAME)



RE.CNT 1. THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:784077 HCAPLUS

DN 130:139709

TI Stepwise synthesis and characterization of oligomers based on
 1,1'-binaphthol with 3,3'-acetylene spacer

AU Meng, Yue; Slaven, Williams T., IV; Wang, Dong; Liu, Tian-Jun; Chow,
 Hak-Fun; Li, Chao-Jun

CS Department of Chemistry, Tulane University, New Orleans, LA, 70118, USA
 SO Tetrahedron: Asymmetry (1998), 9(20), 3693-3707
 CODEN: TASYE3; ISSN: 0957-4166

PB Elsevier Science Ltd.

DT Journal

LA English

AB A selective mono de-iodination led to an alternative preparation of a mono-iodo binaphthol-derivative in high yield. With the mono-iodo compound, several structurally well-defined, 1,1'-binaphthol-based optically active oligomers with a 3,3'-acetylene spacer were synthesized through palladium catalyzed, stepwise-coupling methods. The elec. and photo-phys. properties of the oligomers have been examined. The elec., photo-absorption, excitation and fluorescent data for various oligomers indicated that there is a very limited conjugation present between the naphthylene rings. The atropic character of 1,1'-binaphthyl moiety led to twist and rigid main chain in the oligomers and polymers. With the changes of the external environment such as solvents, solvent viscosity and ambient temperature, the wavelengths of absorption and fluorescence and the intensities of absorption are changed slightly, but the fluorescent intensity and quantum yield can be influenced. The luminescent behaviors of the longer chain oligomer exhibit the twisted intramol. charge transfer characteristic, which has a potential application in wavelength-stable light emitting material adaptable to ambient temperature and the solvent used in wide range.

CC 35-5 (Chemistry of Synthetic High Polymers)

ST binaphthol oligomer acetylene spacer prepn stepwise coupling

IT Fluorescence

Polymer morphology

Redox potential

(in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT Polyacetylenes, preparation

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT Deiodination

(mono-; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT Polymerization

(oligomerization; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 180507-30-6P 180507-31-7P 219997-11-2P 219997-12-3P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 219997-14-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 994-71-8, Bis(tributylstannyl)acetylene 1066-54-2,
 (Trimethylsilyl)acetylene 75640-87-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 197777-82-5P 197777-83-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (oligomeric; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 180507-32-8P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(pseudo dimer; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 219997-13-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(pseudo trimer; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 219997-15-6P

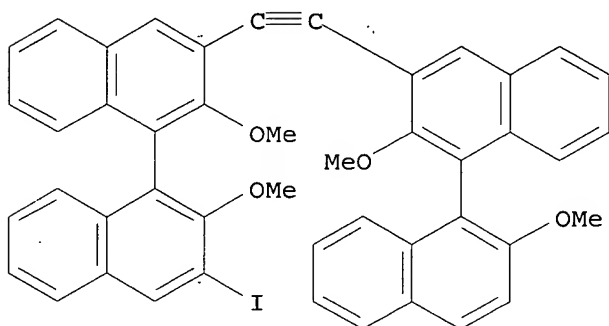
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(pseudotetramer; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

IT 219997-14-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

RN 219997-14-5 HCAPLUS

CN 1,1'-Binaphthalene, 3-[[[(1S)-2,2'-dimethoxy[1,1'-binaphthalen]-3-yl]ethynyl]-3'-iodo-2,2'-dimethoxy-, (1S)- (9CI) (CA INDEX NAME)

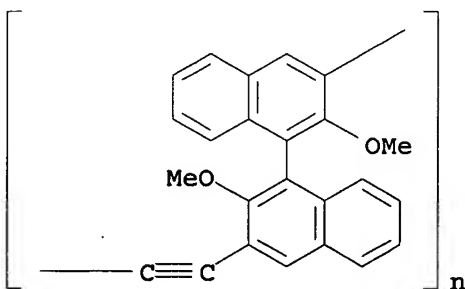


IT 197777-83-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(oligomeric; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

RN 197777-83-6 HCAPLUS

CN Poly[[[(1S)-2,2'-dimethoxy[1,1'-binaphthalene]-3,3'-diyl]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



IT 180507-32-8P

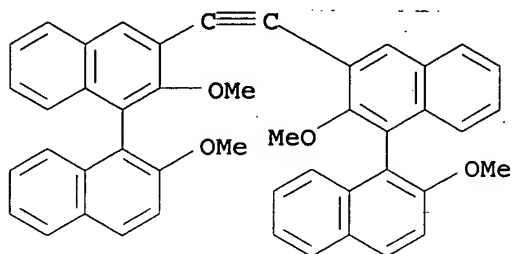
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(pseudo dimer; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

RN 180507-32-8 HCAPLUS

CN 1,1'-Binaphthalene, 3,3'-(1,2-ethynediyl)bis[2,2'-dimethoxy-, (1S,1''S)-(9CI) (CA INDEX NAME)



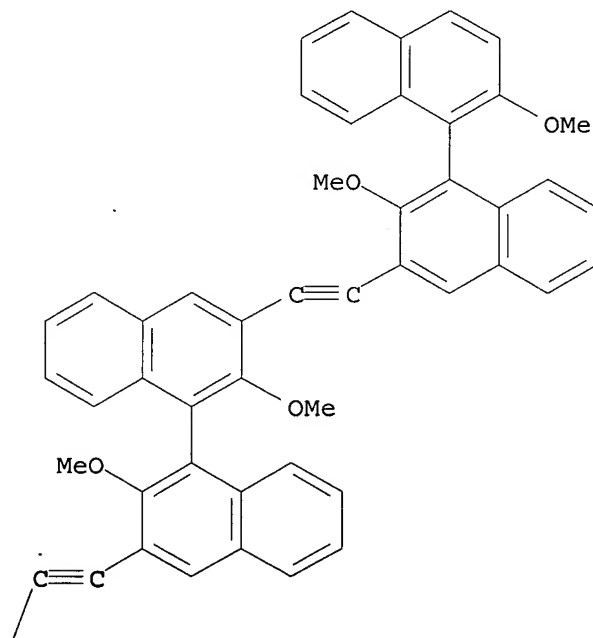
IT 219997-13-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(pseudo trimer; in preparation and characterization of binaphthol oligomers having acetylene spacers prepared by stepwise coupling)

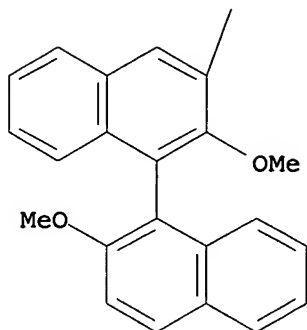
RN 219997-13-4 HCAPLUS

CN 1,1'-Binaphthalene, 3,3'-bis[[[(1S)-2,2'-dimethoxy[1,1'-binaphthalen]-3-yl]ethynyl]-2,2'-dimethoxy-, (1S)-(9CI) (CA INDEX NAME)



PAGE 1-A

PAGE 2-A



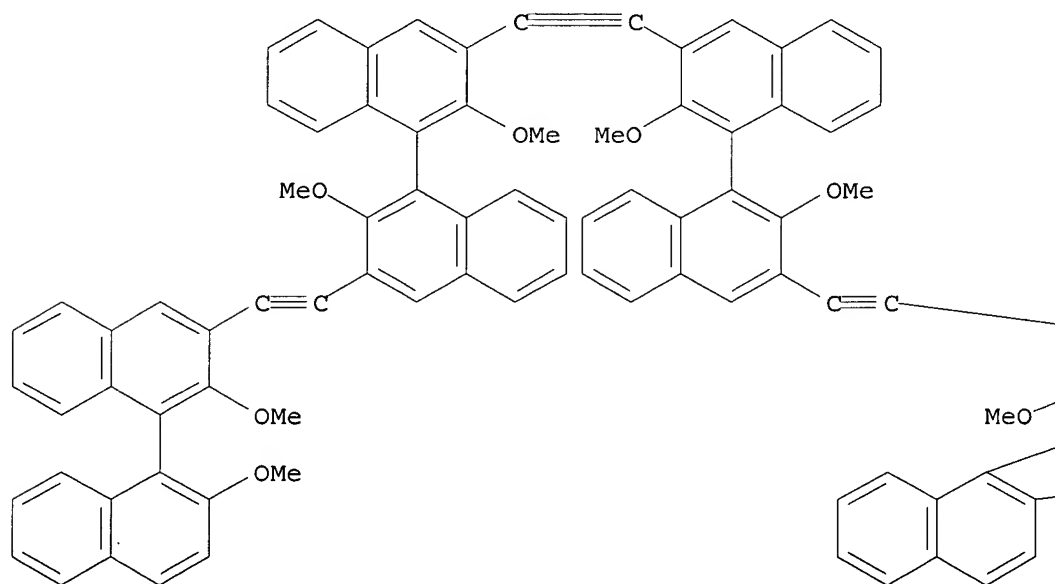
IT 219997-15-6P

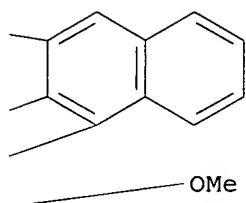
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(pseudotetramer; in preparation and characterization of binaphthol oligomers
having acetylene spacers prepared by stepwise coupling)

RN 219997-15-6 HCAPLUS

CN 1,1'-Binaphthalene, 3,3''-(1,2-ethynediyl)bis[3'-[[[(1S)-2,2'-
dimethoxy[1,1'-binaphthalen]-3-yl]ethynyl]-2,2'-dimethoxy-, (1S,1''S)-
(9CI) (CA INDEX NAME)

PAGE 1-A

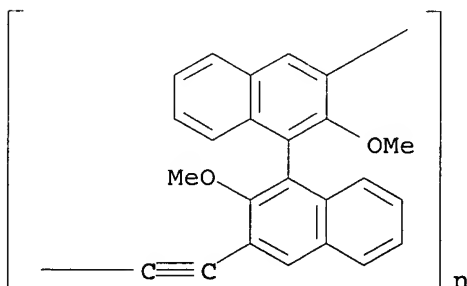




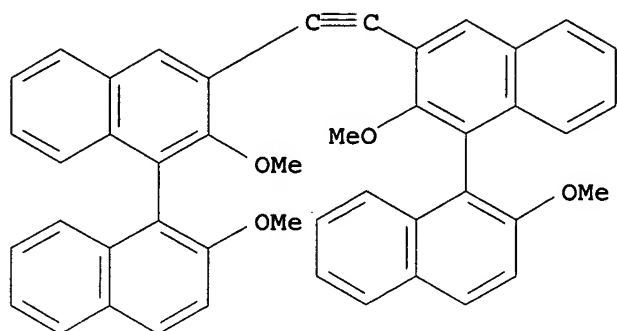
RE.CNT 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:669354 HCAPLUS
DN 129:348991
TI Photophysical behaviors of oligomer based on 1,1'-binaphthol with
3,3'-acetylene spacer
AU Liu, Tianjun; Wang, Dong; Bai, Fenglian; Li, Chaojun; Slaven, William T.,
IV
CS Inst. Chem., Chin. Acad. Sci., Beijing, 100080, Peop. Rep. China
SO Chinese Journal of Polymer Science (1998), 16(3), 234-240
CODEN: CJPSEG; ISSN: 0256-7679
PB Science Press
DT Journal
LA English
AB The photophys. behaviors of the oligomer based on 1,1'-binaphthol with
3,3'-acetylene spacer were investigated. The oligomer mol. has a
naphthyl-acetylene-naphthyl effective conjugation segment. With the
changes of the external environment such as solvents used, solvent
viscosity and ambient temperature, the wavelengths of absorption and the
intensities of fluorescence and absorption are changed slightly, but the
fluorescent intensity and quantum yield can be influenced. The
luminescent behaviors of the oligomer exhibit twisted intramol.
charge transfer characteristics, which could have a potential application
in wavelength-stable light emitting material adaptable
to ambient temperature, and the solvents used in wide range.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 73
ST photophysics binaphthol acetylene spacer oligomer; fluorescence TICT
binaphthol acetylene spacer oligomer; twisted intramol charge transfer
conjugated oligomer
IT Fluorescence
Optical absorption
(photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer)

- IT Charge transfer state
(twisted; photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer)
- IT Solvent effect
(viscosity; on photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer)
- IT 197777-82-5 197777-83-6
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer)
- IT 215455-65-5
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer in relation to)
- IT 60-29-7, Diethyl ether, properties 64-17-5, Ethanol, properties
67-56-1, Methanol, properties 67-64-1, 2-Propanone, properties
75-09-2, properties 108-88-3, properties 109-99-9, THF, properties
110-54-3, Hexane, properties
RL: PRP (Properties)
(solvent effect of; photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer)
- IT 197777-83-6
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer)
- RN 197777-83-6 HCAPLUS
- CN Poly[[(1S)-2,2'-dimethoxy[1,1'-binaphthalene]-3,3'-diyl]-1,2-ethynediyl]
(9CI) (CA INDEX NAME)



- IT 215455-65-5
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(photophysics and twisted intramol. charge transfer
luminescence of oligomer based on binaphthol with acetylene
spacer in relation to)
- RN 215455-65-5 HCAPLUS
- CN 1,1'-Binaphthalene, 3,3''-(1,2-ethynediyl)bis[2,2'-dimethoxy-,
(1R,1''R)-rel- (9CI) (CA INDEX NAME)



RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L24 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:658394 HCAPLUS
DN 127:331994
TI A chiral conjugated oligomer based on 1,1'-binaphthol with 3,3'-acetylene spacer
AU Wang, Dong; Liu, Tian Jun; Li, Chao Jun; Slaven, William T., IV.
CS Inst. Chem., Chinese Acad. Sci., Beijing, 100080, Peop. Rep. China
SO Polymer Bulletin (Berlin) (1997), 39(3), 265-270
CODEN: POBUDR; ISSN: 0170-0839
PB Springer
DT Journal
LA English
AB A 1,1'-binaphthol-based optically active oligomer with 3,3'-acetylene spacer was prepared from 2,2'-dimethoxy-1, 1'-binaphthalene through the Pd-catalyzed Stille coupling reaction. The high optical rotation and CD spectrum verified the main-chain chirality of the oligomer. The photophys. properties of the oligomer, absorption, excitation, and fluorescent spectra, demonstrated that the oligomer mol. had a conjugated structure, but twisting and rigid conformation would reduce the delocalization along the backbone.
CC 36-2 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 37, 73
ST binaphthol acetylene polymer chiral conformation luminescence
IT Polymer chains
(conformation; preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)
IT Polyacetylenes, properties
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyarylenealkynylene; preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)
IT Luminescence
(preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)
IT 197777-82-5P 197777-83-6P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(oligomeric; preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)
IT 18531-99-2, (S)-1,1'-Binaphth-2-ol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)

IT 180507-30-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)

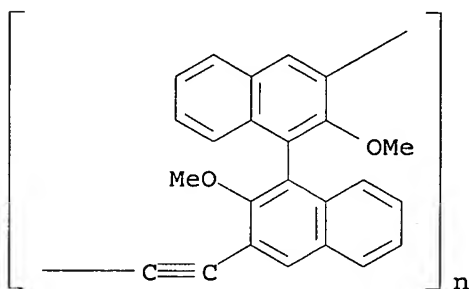
IT 197777-83-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(oligomeric; preparation and properties chiral conjugated oligomer based on binaphthol with acetylene spacer)

RN 197777-83-6 HCAPLUS

CN Poly[[(1S)-2,2'-dimethoxy[1,1'-binaphthalene]-3,3'-diyl]-1,2-ethynediyl]
(9CI) (CA INDEX NAME)



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